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THE DIRECTV GROUP, INC.

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

IN RE ACACIA MEDIA TECHNOLOGIES CORPORATION

Case No. C-05-01114 JW (HRL)

MDL No. 1665

DECLARATION OF ANDREW LIPPMAN

Hearing Date: September 8, 2005
Hearing Time: 9:00 a.m.
Courtroom: Honorable James Ware

Dockets.Justia.com

I, Andrew B. Lippman, declare as follows:

1. I, Andrew B. Lippman, am a citizen of the United States and reside in Salem, Massachusetts.

2. I have been retained by counsel for DIRECTV GROUP, INC., to provide expert testimony in this case concerning certain terms recited in United States Patent 6,144,702 ("'702 patent"). This Declaration is in rebuttal to the Declaration of S. Merrill Weiss In Support Of Acacia's Opposition To Motion For Summary Judgment ("Weiss' Declaration"), Declaration of Peter Alexander In Support of Acacia's Opposition To Motion For Summary Judgment ("Alexander's Declaration"), and supplemental statements made in a letter from Alan A. Block, Re In re Acacia Media Technologies, Dated August 10, 2005 to David J. Silbert ("Supplemental Statements," attached as Exhibit A hereto). I understand that Weiss and Alexander's Declarations have not changed, but for the addition of statements as outlined in the Supplemental Statements.

3. This declaration reflects my opinions and expected testimony with respect to the issues that I have been asked to address. I reserve the right to supplement this Declaration, if appropriate, based upon information learned subsequently.

I. QUALIFICATIONS

4. My education and employment history was summarized in the Declaration Of Andrew Lippman In Support Of Defendant DIRECTV GROUP, INC.'s Motion For Reconsideration Of The Court's Construction Of The Term "Transceiver," which I incorporate here by reference. I provide additional background information below that is relevant to the issues that I have been asked to address in this declaration.

5. I have over twenty-five years experience designing, building and working with video systems, focusing primarily on computer processing of pictures and moving image sequences, video coding and compression, and interactive systems. I have direct experience with a variety of video storage and communications devices.

6. In the early 1970's, I built a "shared bus" between the several minicomputers used at the Architecture Machine. In some ways, this presaged multiple computer networked systems. After that, I built a memory system that drove one of the first computer controlled video display

systems. This is the type of display that is used in all computer displays today, but it was novel then. (Prior to that, one literally drew graphics on a screen calligraphically, by directly tracing out lines; today, as with the display I worked on, the screen was painted television style, as a repeated series of modulated scan lines.)

7. I am familiar with optical videodisks. In 1975, my laboratory, then the Architecture Machine group, obtained the first prototype optical videodisk player, serial number 11, that was made available to the non-secret community. (I now own this player and can produce it on demand.) Along with that player came the privilege of mastering optical videodisks, a technology then in its infancy. One of the first discs I mastered took seriously the notion that one-half an hour of video comprised 54,000 individual frames, each accessible on the videodisk. The Architecture Machine created a disc that contained 54,000 individual slides, the largest image archive of the time, and I personally created (mastered) the videodisk that comprised this "Slidathon." I still have the original 16mm movie film from which that disc was made.

8. I interfaced the videodisk player to computer graphics equipment to allow graphical overlay on the videodisk television images, and to provide computer control of the disc player itself. Using this, I created a disc with 54,000 images of a small town, Aspen, Colorado. These images consisted in part of a photo taken every ten feet along every street in the town and around every corner of every intersection. Using a computer database of the frames on this disk and a graphical, touch sensitive screen placed on the display, one could engage themselves in a simulated "drive" through the town seeing precisely what one would see if one was there, and allowing the user to take any route. This was funded by the Defense Advanced Research Projects Agency for the purpose of making a "map" that was so compelling and instructive it could substitute for the first (familiarization) visit to a new place. Later discs included interactive movies funded by the Office of Naval Research for the purpose of learning techniques of maintenance and repair. In 1981, the Architecture Machine ran a special Summer Session to teach the techniques of creating such interactive image archives. I mastered the disc that was given to the participants in that instruction.

9. These systems, the Slidathon, the Movie-Map and the Movie-Manual, were well known at the time. They are still referenced today when interactive motion picture systems are far more commonplace and simpler to construct. They have all been published. I am familiar with video editing systems used for this kind of work, and with the notion of addressing individual frames of an image sequence.

10. I also developed a patented system (with colleagues) that addressed the problem of distribution of a movie in a way that would allow it to be viewed on a normal television receiver yet not recorded on a videocassette machine. This goal is referred to in '702 patent at 5:45-47, although Yurt never mentions how one would do it. I was familiar in those days with the types and mechanisms of copy protection in use at the time (1980's). I presented my work at the IEEE conference on broadcasting.

11. I joined the ISO/IEC JTC1/SC29/WG11, (MPEG) group in 1988, at its second meeting, after presenting a moving video coder that produced reasonable pictures at the data rate normally used for compact disc (CD) audio. This work was described at the Picture Coding Symposium in 1988. I worked on early video encoders and participated in MPEG through the development of the MPEG-2 standard. Under my direction, my students developed a competitive coder for consideration by the MPEG committee in its MPEG-1 deliberations. I am an author of a definitive paper on the MPEG-2 requirements that was released and published as part of a coordinated set of articles describing MPEG, in Image Communications, in 1995.

12. I was the founding Associate Director of the MIT Media Laboratory and I have worked with Nicholas Negroponte, the founder of the lab, since 1969. Negroponte is noted as an authority by Weiss for the concept of metadata, phrased as the notion "bits about the bits." I am currently a senior research scientist at MIT, working in the Media Laboratory.

13. I have served as an expert on several patent litigations only in the domain of video communications systems and the human interface, areas in which I am considered an expert. I am therefore conversant in the technical areas touched upon in this patent, as an academic, an inventor, and designer of the systems involved in the intersection of computing and television.

14. DVI, a digital video encoding method that Alexander mentions as part of the technology of the time, was developed at RCA's Sarnoff Laboratory (not by General Electric.) I was a consultant to IBM during its development and when it was later purchased by Intel, and I examined the technology at the Sarnoff Laboratories on behalf of IBM. The system (and patent) on which it is based is predicated on video encoding algorithms that I know well. They were originated by Professor Murat Kunt of the École Polytechnique Fédérale de Lausanne, where I earned my Ph.D. under the guidance of the same Professor Kunt. General Electric did not own RCA at the time. Since I knew the developers of DVI as well as the progenitor of the underlying algorithm, I can speak with some authority on the term as well as the general state of the art of video encoding at that time. I used DVI as an example problem for my MIT class in Digital Video.

II. QUESTIONS PRESENTED AND STATEMENT OF OPINIONS

15. I was asked to provide expert testimony on the following issues: (1) what, if any, meaning "identification encoder" would have had to a person of ordinary skill in the art in 1991 based on its use in the '702 patent; (2) what, if any, meaning "sequence encoder" would have had to a person of ordinary skill in the art in 1991 based on its use in the '702 patent; and (3) whether the analysis and reasoning expressed in Weiss and Alexander's Declarations comport with how one of ordinary skill in the relevant art in 1991 would understand the meaning of the terms "identification encoder" and "sequence encoder" as used in the '702 patent.

16. For the purposes of forming my opinions and conclusions, I have reviewed the '702 patent, the Markman Order dated July 12, 2004, Weiss' Declaration, Alexander's Declaration, Supplemental Statements, Declaration of Ian Leslie In Support Of Defendants' Motion To Strike, and other relevant documents.

17. It is my opinion that, in the context of the '702 patent, the term "identification encoder" is ambiguous, and a person of ordinary skill in the art cannot reasonably understand the scope of this term.

18. It is my opinion that, in the context of the '702 patent, the term "sequence encoder" is ambiguous, and a person of ordinary skill in the art cannot reasonably understand the scope of this term.

III. DETAILED BASES FOR OPINIONS

19. As an initial matter, I was asked to define the level of skill of a hypothetical person of ordinary skill in the art to which the claimed subject matter of the '702 patent pertains on or about January of 1991. The relevant art is multimedia processing, compression, and distribution systems. In my opinion, the patent's subject matter purports to address the architectural and processing elements of such system. Thus, in my opinion, a hypothetical person of ordinary skill in January 1991 would have a degree of Bachelor of Science in Electrical Engineering, Computer Science or Computer Engineering with some concentration in signal and image processing, interactive systems, and/or communications systems.

A. IDENTIFICATION ENCODER

20. It is my opinion that there was no customary or ordinary meaning for an apparatus called an "identification encoder" to a person of ordinary skill in the art in 1991. The term "identification encoder" does not connote a definite structure to one skilled in the art. It is not a term I have used or am familiar with. The term "identification encoder" is also not an entry in any technical dictionaries of which I am aware. I have considered the individual component terms "identification" and "encoder" separately in several technical dictionaries and find no suggestion to combine these two terms to form a compound phrase that defines a definite structure to one skilled in the art.[1]

21. As part of the Court's previous Markman proceedings, Acacia submitted four patents which used the term "identification encoder" (U.S. Patent Nos. 4,087,753; 4,425,754; 4,994,916; and 5,204,900). I have reviewed these patents and in none of them is the term

[1] The technical dictionaries I consulted are: IEEE Standard Dictionary of Electrical and Electronics Terms (4th ed. 1988) (IEEE 4th edition), attached as Exhibit B hereto; IEEE Standard Dictionary of Electrical and Electronics Terms (5th ed. 1993) (IEEE 5th edition), attached as Exhibit C hereto; Computer Dictionary and Handbook (1980), attached as Exhibit D hereto; Dictionary of Information Technology (2nd ed. 1986), attached as Exhibit E hereto; and Dictionary of Computing (3rd ed. 1990), attached as Exhibit F hereto.

identification encoder used in a way that is relevant to the "identification encoder" referred to in the '702 patent. For example, the '753 patent describes an "identification encoder" that encodes a vehicle identification number of an automobile into a pattern to modulate a responder signal. The '754 patent describes an "identification encoder" that encodes a signal which is uniquely correlated to a specific spinning machine in a textile mill. The '916 patent describes an "identification encoder" that distinguishes one source camera from other cameras in a surveillance system. The '900 patent describes an "identification encoder" that creates codes to identify the intended recipients of a scrambled video. Each "identification encoder" in these patents performs a different function, and, as will be discussed below, these functions are different from the functions ascribed to the "identification encoder" of the '702 patent.

22. Further, the "identification encoders" described in three of the patents (the '753 patent, '916 patent and '900 patent) elaborate the meaning of the phrase as used by the patentee with respect to its position in the system, its purpose, and its operation. These patents do not make the assumption that the reader would understand the term "identification encoder." They treat it as a term they themselves each "coined" [see Weiss, paragraph 34] and, within the context of their respective environment, they explain what their "identification encoder" is and how it works with refreshing clarity.

23. As correctly noted by Weiss in his declaration at paragraph 39 (paraphrased here), an "encoder (and its related decoder) has a set of characteristics that define it. Those characteristics include an input [...], a function [...], and an output [...]." Encoder, therefore, is a generic term for a device that performs a transformation on input data by following some specified rule with the general intent that the rule can be inverted and either the actual (or some approximation of the) original data can be recovered by the decoder.

24. In each of these patents, the expected transformation occurs and its rule is described. Finally, the *identity* that is encoded is defined, *viz.,* as the vehicle identification number of a vehicle, the identity of a television camera or the identity of a television receiver that is to receive a scrambled telecast.

25. I cannot comment as thoroughly on the yarn equipment patent, since that is far afield of my expertise. However, it appears from the specification that a similarly precise and specific description of the identification encoder is presented by the author.

26. Not surprisingly, after considering these patents, the Court in its Markman Order at page 35 said, the "patents cited by Acacia that disclose an identification encoder in [four] completely different ways, none of which are applicable here nor cited by the patents-in-suit, further exemplifies that one of skill in the art would not understand the meaning of the term 'identification encoder.'" I agree with the Court's conclusion that there is no ordinary meaning to this term, and that the use of this term in the '753, '754, '916 and '900 patents further supports that conclusion.

27. I reviewed the '702 patent to determine whether the patent provided a definition of the term "identification encoder." I first considered the claims of the '702 patent. The term "identification encoder" appears in independent claims 1, 17, 27, and dependent claims 5, 6, 19, and 31.

28. The independent claims each recite different functions to an "identification encoder" or no function at all. For example, in independent claim 1 the "identification encoder gives items in said compressed data library a unique identification code." Claim 6 depends from claim 1, and recites that the "identification encoder" also allows entry of a popularity code. Independent claim 27 requires only the function that the "identification encoder" allows entry of a popularity code. Independent claim 17 recites no function for the "identification encoder." Dependent claims 5, 19 and 31 only require that the "identification encoder" be "in data communication with" another device in the transmission system. The claims therefore fail what we might call the Weiss test: that an encoder is defined by its input, the transformation it performs (in Weiss' words, the function), and its output.

29. The fact that different functions are ascribed to a particular device in a patent may not be troubling if that device has an ordinary meaning or if its structure is otherwise defined by the patentee. Here, however, an "identification encoder" has no ordinary meaning, and as will be discussed below, its structure is not defined in the patent specification. Moreover, the functions

recited in the claims are quite different. Thus, the functions themselves as expressed in the claims do not imply any particular structure or class of structures for the "identification encoder."

30. I turned to the specification to see if I could define this term from the context provided. The written description and the drawings of the patent specification, however, only raise more ambiguity. The specification discloses that the "identification encoder" is capable of performing many more functions than those recited in the claims. These functions are summarized in a table on page 15 of Weiss' Declaration.

31. As identified in Weiss' table, the specification indicates that the "identification encoder" has the capability to retrieve information from items from the source material library; assign a unique identification code to analog and/or digital items; encode copy protection information; log details about an item including program notes, a popularity code, item notes and production credits; assign a unique address code (file address); facilitate indexing songs by frame number; map item addresses to item names to provide an alternative method for accessing items; access a master item database to track and describe items in one or more compressed data libraries; and update names and other facts in the item database.

32. While the specification contemplates numerous functions that the "identification encoder" performs, it provides no guidance to the structure of the "identification encoder." Stated another way, the specification fails to tell *how* it encodes any of this information or what apparatus is engaged in doing it. Also, because the functions assigned to the "identification encoder" in the specification are so diverse, the functions collectively do not imply any particular structure or class of structures for the "identification encoder." Given that "identification encoder" has no common meaning, the wide range of functions ascribed to it begs for a detailed disclosure of an exemplary structure to give guidance as to what the "identification encoder" may be.

33. The '702 patent specification lacks meaningful description in other ways. The '702 patent asserts, but does not describe how, the identification encoder operates on both analog and digital signal information. See, 6:56, 6:63 and 7:6. The specification also asserts, but does not describe how, the "identification encoder" operates at various points in the processing in the

transmission system. For example, the identification encoder may perform storage encoding before conversion, after conversion, and even after the item is stored in the compressed data library. See, 6:39-42. These are not trivial or obvious variations of the identification encoder's capability, but a material change of its scope which again begs for a detailed disclosure to inform one of ordinary skill in the art the scope of the patentee's intended invention.

34. In sum, the term "identification encoder" has no ordinary meaning, the '702 patent does not describe any structure for the "identification encoder." It is a "catch-all" black box. I conclude therefore that the term "identification encoder" as used in the '702 patent is ambiguous and a person of ordinary skill in the art cannot reasonably understand the scope of this term.

35. I now address the proposed constructions of the identification encoder as presented by Acacia and its experts S. Merrill Weiss and Peter Alexander. In my opinion, Acacia and its experts do not offer constructions of an "identification encoder" that are correct in the context of the '702 patent. Acacia proposes a definition that an "identification encoder" means simply "a structure that assigns a unique identification code." This definition ignores the multitude of other functions that are ascribed to the "identification encoder" in the specification, and in claims 1 and 27. Nor does this definition shed any light on the structure or mechanism by which it will accomplish that goal. This definition fails for the reasons presented above – it also does not meet the Weiss test.

36. Acacia's selection of a single function (assigns a unique identification code) as the defining limitation for an "identification encoder" is arbitrary and contradicts the disclosure of the '702 patent. Because the term "identification encoder" has no ordinary understanding, and the specification discloses no structure, an "identification encoder" has meaning only to the extent that functions are ascribed to it. But the specification does not link a single limited function to the "identification encoder." The specification instead ascribes a multitude of functions to the "identification encoder." There is no reason why the "identification encoder" should be limited to a single function. Although both Weiss and Alexander recognize that the "identification encoder" performs a multitude of functions, Acacia, in its assertion, ignores this fact and links a single function of assigning a unique identification code to the "identification encoder."

37. Alexander's Declaration at paragraph 49 provides that because Figure 2a depicts the identification encoder 112 as an "identification encoding process," one skilled in the art would "naturally associate the term 'process' with a computer program." I disagree.

38. The patent expressly teaches that storage encoding which is a part of the identification encoding process involves “logging details,” an operation that is performed by a human being. For example, in 8:30-33, “the song [...] was indexed by the system operator..." Similarly, the address code which again is part of the identification encoding process is assigned by the system operator in 10:37-38. The identification encoding “process,” therefore, is not solely a computer program at all, at least not in Yurt’s view; it is an intermediate series of steps (some of which are) performed by a person.

39. Even were it to be taken to mean a computer program, that is not sufficient to indicate to one skilled in the art the scope or boundaries of an "identification encoder." Stating that it is a computer program does not express how it would impress a unique identification code on analog information (as stated at 7:6) or how it would transform or encode digital data as stated in at 5:62, or even if its intended function is to encode this information with anything at all. Understanding that a computer program is involved in performing the function adds no clarity or specificity to the "structure" Acacia includes in its proposed definition. It is no more helpful than saying, for example, that we use a sewing machine to embroider a hat, or a transportation process to move goods. A computer program is merely a series of steps that are performed by the computer. It is the steps themselves that define, not the fact of it being a program. One generally requires an explanation of those steps.

40. In my view, designating a computer program as the structure for an "identification encoder" does not provide any limit on the scope of the term.

41. In addition, in paragraph 55 of his declaration, Alexander suggests that the structure is a database and describes a database approach that is disclosed in the '702 patent as an "alternative method of accessing items." See, 10:52-56. Citing to numerous passages from the specification, Alexander discusses how this method uses mapping item addresses to item names in a database. Although the specification discloses such a method, Alexander mischaracterizes

the specification by stating that such a method is an implementation of an identification encoder that creates a unique identification code. None of the passages Alexander cites in paragraph 55 mention the term unique identification code. A unique identification code is not an item address or an item name, and there is no indication that a unique identification code would be included in the database referenced by Alexander in order to perform this "alternative method" of accessing items. Instead, it appears that this alternative method of accessing items functions independently of accessing items using a unique identification code. This is quite different from software that adds an identification code to an item. It implies a different flow from that shown in patent figure 2a.

42. Alexander also substantially re-writes the patent and selectively draws upon phrases at diverse points in the specification to create a particular system. While the system he so designs may well deliver multimedia information, I cannot conclude that it is the one intended by the patentee.

43. To start, he uses the word encoder to denote a data entry process. The output of his identification encoder (or entry process) is a database, not encoded data in the sense of the words normally understood by someone skilled in the field and defined by Weiss. More importantly, Alexander omits inconsistencies in the specification where they don't suit his design. For example, the specification provides that after compression, a file may contain compressed audio and/or video data, time markers and program notes. See, 10:7-11. But the specification also provides that the notes appear to be a component of the item database. See, 10:45-46. Thus, it is not clear where the components of the item database are stored - with the file, or in an external item database. Alexander makes no attempt to reconcile this inconsistency.

44. Weiss, on the other hand, provides a comprehensive tabulation of where the term "encoder" is used in the specification and then dwells on the definition of the term. Specifically, he notes in paragraph 37 that an encoder "expresses a single character or a message in terms of a code." In paragraph 38, he explains that an "encoder" applies a code by following the rules of the code that establish the relationship between the underlying (input) and the coded (output) data.

As noted earlier, I accept Weiss' description of an encoder as a device having an input, an output, and an algorithm (function in his words).

45. Weiss then provides an example -- the automation system used at KYW television -- that is consistent with his definition. Indeed, the automation system generates a code, as described in paragraphs 45-50, and then creates a data base and applies the code to the tape. Indeed, that code is applied in two ways: electronically to the tape, and via a bar code to the tape carrier. See, paragraph 58. He thus shows structure for the coding process that implements the function and two variations of specific output.

46. However, when he (at paragraphs 62 and 63) provides a definition of "identification encoder," in contrast to his example, he simply repeats the unspecific word used in the patent, "assign," as a substitute for defining with specificity the output and structure. By itself, the word "assign" does not enlighten how one would apply any code at all to a "digital input formatter for digital source data," and to "an analog-to-digital converter for analog source data." See paragraph 63. Indeed, in analyzing the attributes of the identification encoder in the specification, Weiss' tabulation does not show what the input is, does not show where the output goes, and most important, does not show the algorithm or process by which the encoder applies its rule to the input.

47. Thus, we are presented with two very different interpretations of what the identification encoder does: In Alexander, it is a data entry process performed at least in part by a human operator, whereas in Weiss the input is the source material library, and the output is coded information directed (not at the item database) but at the (113) converter.

48. None of this is any clearer than the '702 patent specification. I am no closer to understanding whether the "identification encoder" performs Alexander's process of database creation, or whether it performs Weiss' transformation of the information from the source material library (or whether it performs something else). To add to the confusion, Weiss uses the word "content" in his definition, which hides the particular information that is being encoded. These two diverse (or quite different) representations of the identification encoder highlight the fundamental ambiguity in the '702 patent specification.

49. In brief, therefore, it is not clear what the identification encoder encodes, whether the additional information that is part of the item database is within the rubric of the identification encoder, and where the output of that encoder is directed. It appears that two experts have provided two different views of the operation of the claimed device that hold nothing in common more than an overlaid definition of the words.

50. Weiss and Alexander both describe systems that use unique identifiers, and exhibits to Alexander's declaration provides examples of those unique identifiers. Neither Weiss nor Alexander have identified a specific structure that is called an "identification encoder." The existence of unique identifiers do not inform one skilled in the art what device created or generated those identifiers, and no such systems were referred to as identification encoders. Therefore, Weiss and Alexander's Declarations and attached exhibits do not cure the absence of disclosure of an identification encoder's structure in the '702 patent specification.

51. Finally, there is another problem with Acacia's definition; the term "unique identification code" is itself ambiguous because it is functionally indistinguishable from a "unique address code." For example, the specification describes both the unique identification code ("UIDC") and unique address code ("UAC") to make items addressable and locatable. Claim 1 recites that the "identification encoder" gives items in the compressed data library a unique identification code. The '702 patent at 10:9-11 provides,

> The file is addressable through the unique identification code assigned to the data by the identification encoder.

52. However, the '702 patent at 10:25-9 also provides that,

> Stored items are preferably accessed in compressed data library through a unique address code. The unique address code is a file address for uniquely identifying the compressed data items stored in the compressed data library section of a library system.

53. Also, both unique identification code and unique address code are described in the specification to make items accessible. For example, at 11:1-4,

> As described in more detail later, a user may preferably access an item via its unique identification code, via its title, or the user may use other known facts for accessing an item.

But the specification also provides at 11:4-7 that,

> The user may access items in the compressed data library 118 directly using the unique address code or he may obtain access via the remote order processing and item database 300.

54. Finally, both unique identification code and unique address code are assigned to an item by the identification encoder 112 during storage encoding. See, 6:35-37, and 10:37-40, respectively.

55. Yet, the '702 patent specification makes clear that the unique identification code is not a unique address code. For example, at 6:43-45,

> In a preferred embodiment of the present invention, the method of encoding the information involves assigning a unique identification code and a file address to the item,...

And, at 10:26-27, "The unique address code is a file address ..."

56. Because the two codes are distinct yet defined in the patent as having the same functions, a person skilled in the art will not be able to distinguish between unique identification code and unique address code. Because the specification does not give any example of a unique identification code, or how a unique identification code may be generated, encoded with or assigned to the item, and because unique identification code itself is defined in functional form the same as a unique address code, one skilled in the art can only guess as to whether an identifier his system uses is a unique identification code or unique address code.

57. In his declaration, Alexander represents in paragraphs 54 and 55 that the '702 patent provides sufficient description to allow a person skilled in the art to implement "an identification encoder capable of creating unique identification codes." I disagree.

58. In paragraph 54 of his declaration, Alexander cites to 6:37-44 of the '702 patent. However, that passage describes that "the unique address code is used for requesting and accessing information and items throughout the transmission and receiving system." As already discussed, a unique address code is not a unique identification code. Therefore, this passage does not assist one skilled in the art to understand how an identification encoder is capable of creating a unique identification code.

B. SEQUENCE ENCODER

59. It is my opinion that there was no customary or ordinary meaning for an apparatus called a "sequence encoder" to a person of ordinary skill in the art in 1991. The term "sequence encoder" does not connote a definite structure to one skilled in the art. It is not a term I have used or am familiar with. The term "sequence encoder" is not an entry in any technical dictionaries of which I am aware. I have considered the individual component terms "sequence" and "encoder" separately in several technical dictionaries and find no suggestion to combine these two terms to form a compound phrase that defines a definite structure to one skilled in the art.[2] Therefore, I agree with the Court's conclusion that the term "sequence encoder" has no ordinary meaning.

60. It has been brought to my attention that in the prior Markman hearing, Acacia submitted four patents which used the term sequence encoder (U.S. Patent Nos. 3,439,341; 4,890,283; 5,097,410; and 5,127,021), and I have reviewed these patents. Although each patent uses the term "sequence encoder," these patents show that there is no ordinary meaning to this term. The term "sequence encoder" as used in each of these patents refers to different devices that perform different functions. For instance, in U.S. Patent No. 3,439,341, the term is used with respect to a device that detects a particular sequence of letters and then generates a coded output that represents the sequence of letters. In U.S. Patent No. 5,097, 410, the term is used with respect to a device that generates multiple control signals in a sequence. Both U.S. Patent Nos. 4,890,283 and 5,127,021 use the term "direct-sequence encoder". In U.S. Patent No. 4,890,283, a "direct sequence encoder" combines a bit of information with a pseudo-random sequence, and in U.S. Patent No. 5,127,021, a "direct-sequence encoder" combines multiple bits of information with multiple pseudo-random sequences and then combines the multiple results into a single signal. These are not discussing a sequence encoder, they are discussing a direct-sequence encoder, a term of art used to describe a specific algorithm for generating spread spectrum radio

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[2] The technical dictionaries I consulted are: IEEE Standard Dictionary of Electrical and Electronics Terms (4th ed. 1988) (IEEE 4th edition), attached as Exhibit B hereto; IEEE Standard Dictionary of Electrical and Electronics Terms (5th ed. 1993) (IEEE 5th edition), attached as Exhibit C hereto; Computer Dictionary and Handbook (1980), attached as Exhibit D hereto; Dictionary of Information Technology (2nd ed. 1986), attached as Exhibit E hereto; and Dictionary of Computing (3rd ed. 1990), attached as Exhibit F hereto.

frequency signals. None of these patents describe a sequence encoder being a "time encoder" or applying time markers as asserted by Acacia.

61. One of the exhibits attached to the Alexander Declaration was written by me. In that article, I do not use or define the term "sequence encoder." I present a coding (compression) scheme for "sequence of images," what today we might call video clips. A feature of that particular encoding is that it allows reconstruction of the image sequence at different scales and with different time bases, or frame rates.

62. I examined the claims of the '702 patent. The term "sequence encoder" is recited in independent claims 1 and 17, and dependent claims 7, 18, 32 and 33. Claim 1 requires only that a "sequence encoder" be somewhere in the transmission system. Claim 7, depending from claim 1, recites "said sequence encoder transforms digital data blocks into a group of addressable data blocks." I understand that an independent claim and its dependent claim have a difference in scope, with the dependent claim narrowing the scope of the independent claim. Therefore, all that I can conclude from dependent claim 7 is that the sequence encoder of claim 1, must perform one or more functions other than the function of transforming digital data blocks into a group of addressable data blocks. Because the specification does not use or define the term sequence encoder, these additional functions are unknown.

63. Alexander states in paragraph 18 of his declaration that:

> The first express reference to sequence encoder appears in the claims themselves (at 19:30 (claim 1)) and merely indicates that a sequence encoder is distinct from an identification encoder. However, at 20:2, we are told that a "sequence encoder transforms digital data blocks into a group of addressable data blocks." This clearly describes to one of ordinary skill in the art the function of the sequence encoder.

64. I disagree with this statement. Column 20:2 is dependent claim 7 which depends from claim 1. As discussed above, all that can be concluded from reading claims 1 and 7 is that the claimed sequence encoder in claim 1 does something other than the function recited in the dependent claim.

65. Claims 17 and 18 only require that the sequence encoder be "in data communication with" another device of the transmission system, and do not assist one skilled in the art to understand the scope, the function or the structure of a "sequence encoder."

66. Claim 32, depending from claim 27, provides that the transmission system includes a sequence encoder. Claim 33, depending from claim 32, requires "said sequence encoder transforms digital data blocks into a group of addressable data blocks." Similar to my examination of claims 1 and 7, claim 33 does not define the scope of the term "sequence encoder" recited in claim 32.

67. The term "sequence encoder" does not appear in the specification of the '702 patent. Because the term "sequence encoder" has no ordinary meaning, and the term is not defined in the specification, a person of ordinary skill in the art cannot understand what is meant by a sequence encoder.

68. I now address whether there is any other well-defined element in the specification that could shed light on the meaning of a sequence encoder as suggested by Weiss and Alexander. As discussed below, I find it does not.

69. The patent mentions the term sequence at 7:50-54,

> The transmission system 100 of the present invention also preferably includes ordering means for placing the formatted information into a sequence of addressable data blocks. As shown in FIG. 2a, the ordering means in the preferred embodiment includes a time encoder 114.

70. Weiss and Alexander rely on this paragraph (at least in part) to equate the terms sequence encoder and time encoder. Alexander makes this argument by elimination: since there is no other candidate encoder to which the term can apply, it must apply to the time encoder referenced in column 7. They engage in a strained reading of the specification to conclude that the sequence encoder is the time encoder. In doing so, neither Weiss nor Alexander directly explain why two different terms should have the same meaning. The patentee explicitly used the term sequence encoder in the claims instead of time encoder in the claim. That the patentees selected two different terms compels the reasonable conclusion that two different meanings were intended.

71. Time is generally used to synchronize or coordinate events, and sequence is used to order them. Their only similarity is that both are usually monotonically increasing series, but sequencing and timing are not generally used for the same thing nor are they applied to the same elements in a normal system. A simple colloquial example illustrates this point. A person waiting for a table at a restaurant would like to know how long until his table is ready. He is told that he is third in a sequence, i.e., one after the second person, but one before the fourth person. Knowing his place in a sequence does not advise him of how much time will pass before he will have his table. Similarly, knowing how much time will pass before he sits will not advise him of how many patrons are before him. Clearly, time and sequence are different concepts - a sequence need not be temporal in nature. A person skilled in the art understands this distinction and would not have considered these terms synonymous.

72. The situation is the same with respect to multimedia data. Time can be used to synchronize the replay of audio and video that has undergone separate processing and/or delivery via separate channels. Time code facilitates dual system editing where the sound and the picture are edited on different machines, perhaps by different people. The time code can then re-marry the audio with the correct video for ultimate playback.

73. Conversely, when one stores or delivers information, it is often divided into blocks or packets, which are commonly all the same size. Different packets or disc blocks may not contain the same duration of video, audio or accompanying data. For example, if there was no closed captioning and no augmenting information, then the data would take no space in the packet, leaving room for more sound or image. In this case, each packet or block can then contain a different amount of temporal information. Ordering them with a sequence number allows a disc controller or communications controller to insure both that the packets or blocks are presented to the next stage of processing in the correct order *and that all are present and accounted for.*

74. In essence, time synchronizes replay, and sequence provides order.

75. Another example involves the ordering of data within a single frame of video or within a single picture as one generally does in a video encoder, or compression system. Data in

a single frame or picture is ordered in a sequence of blocks, which then form another sequence of macro-blocks. Each of these blocks and macro-blocks has its own address within a single frame. These block sequences are not only independent of time, but they cannot, by definition, be ordered by time by virtue of the fact that they are within a single video frame. Indeed, Alexander concedes that units of time are, at best, limited to the frame level, and yet data within a single frame involves sequences.

76. Likewise, an optical video disk could be encoded with either sequence numbers (frame numbers) or time codes depending on its format.

77. This is germane because the patent is not limited to audio and video streams. Indeed, the patent discloses the processing of "still pictures, files, books . . . [and] documents of various sorts." See, 6:7-15. It is inapposite to view still pictures, files, and pages of books as involving units of time, and yet they all involve data that must be in a specific sequence.

78. Time and sequence are therefore different. That explains why one would quite naturally use different words for each concept. I therefore conclude that a person of ordinary skill in the art would not equate the sequence encoder mentioned in the claims with a time encoder as mentioned in the specification.

I declare under penalty of perjury that the foregoing statements are true and correct to the best of my knowledge, and I executed this declaration on 25 August, 2005 at Cambridge, Massachusetts.

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

IN RE ACACIA MEDIA TECHNOLOGIES CORPORATION	Case No. C-05-01114 JW (HRL) MDL No. 1665 **PROOF OF SERVICE** Hearing Date: September 8, 2005 Hearing Time: 9:00 a.m. Courtroom: Honorable James Ware
AND ALL RELATED AND/OR CONSOLIDATED CASE ACTIONS	

I, Trisha Dolman, declare:

I am employed in Los Angeles County, California. I am over the age of eighteen years and not a party to the within-entitled action. My business address is 555 South Flower Street, 50th Floor, Los Angeles, California 90017. On August 25, 2005, I served a copy of the within document(s):

DECLARATION OF ANDREW LIPPMAN

☐ by transmitting via facsimile the document(s) listed above to the fax number(s) set forth below on this date before 5:00 p.m. on the **attached Service List**

☒ by placing the document(s) listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at Los Angeles, California addressed as set forth on the **attached Service List**

☐ by placing the document(s) listed above in a sealed _________ envelope and affixing a pre-paid air bill, and causing the envelope to be delivered to a agent for delivery.

☐ by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on August 25, 2005, at Los Angeles, California.

Trisha Dolman

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